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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,418	08/01/2003	Hsin-Kai Huang	3304.2.76	4361
21552	7590	01/12/2005	EXAMINER	
MADSON & METCALF GATEWAY TOWER WEST SUITE 900 15 WEST SOUTH TEMPLE SALT LAKE CITY, UT 84101			LAXTON, GARY L	
			ART UNIT	PAPER NUMBER
			2838	
DATE MAILED: 01/12/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

AR

Office Action Summary	Application No. 10/632,418	Applicant(s) HUANG ET AL.	
	Examiner Gary L. Laxton	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/13/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Inventorship

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Specification

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claims 4, 5 and 10 are objected to because of the following informalities: each of the claims refer to the rectification circuit as having a diode and a capacitor. It is unclear if the capacitor is a second capacitor or if it is the capacitor referred to previously in the

respective independent claims. The examiner assumes that the capacitor is the same as previously recited. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Bansard (US 5,325,282).

Claims 1-5; Bansard discloses a voltage regulator comprising: a transformer having a primary winding and a secondary winding (T); a switch circuit (Q) being controlled via a control end thereof so as to result in a variable current on the primary winding; a rectification circuit (CR) electrically connected to the secondary winding, and proceeding a charging operation in response to an induced current; and a micro-controller (9) electrically connected to the switch circuit (Q) and generating a pulse width modulation (PWM) signal to the control end in response to the charging operation. the PWM signal has a variable duty cycle. The micro-controller is controlled by a firmware. The rectification circuit includes a rectifying diode and a capacitor electrically connected to each other in series and further electrically connected to the secondary winding. Furthermore, Bansard discloses a comparing circuit electrically connected to the capacitor, and providing an operating condition of the charging operation for the reference of the micro-controller.

Claims 6-10. Bansard discloses a method for operating a voltage regulator comprising steps of: providing a first pulse signal (9) with a first duty cycle to a transformer (T) till a capacitor (C) has a voltage reaching a maximum voltage (Ref 1) when the capacitor has a voltage smaller than a threshold voltage, and the transformer generating the charging current in response to the first pulse signal; and providing a second pulse signal with a second duty cycle to the transformer till the capacitor (C) has a voltage reaching the maximum voltage by the charging current when the capacitor (C) has a voltage between the threshold voltage and the maximum voltage, and the transformer generating the charging current in response to the second pulse signal, wherein the first duty cycle is greater than the second duty cycle. The first and the second pulse signals are generated by a micro-controller (9). The micro-controller (9) is controlled by a firmware to generate the first and the second pulse signals with the first and the second duty cycles. The first and the second pulse signals are inputted to a primary winding of the transformer (T). The rectification circuit (CR) includes a rectifying diode and a capacitor electrically connected to each other in series and further electrically connected to the secondary winding.

Claims 11-13. Bansard discloses a method for operating a voltage regulator for providing a charging current to a capacitor (C) of a rectification circuit (CR), comprising steps of: comparing a voltage of the capacitor with a threshold voltage; adjusting a duty cycle of a pulse signal according to a comparing result of the voltage of the capacitor with the threshold voltage; and providing the pulse signal to a transformer till the capacitor have a voltage reaching a maximum voltage, and the transformer generating the charging current in response to the pulse signal. The pulse signal provided to the transformer has a first duty cycle when the capacitor has


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a voltage smaller than the threshold voltage. The pulse signal provided to the transformer has a second duty cycle smaller than the first duty cycle when the capacitor has a voltage between the threshold voltage and the maximum voltage.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L. Laxton whose telephone number is (571) 272-2079. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 1/10/05
Gary L. Laxton
Patent Examiner
Art Unit 2838